**Course Title** Intro Linear Algebra

**Course Number:** MATH 235

**Instructor:** Jesse Selover

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**Prerequisites:** Math 132 or equivalent, with grade of 'C' or better.

**Required materials:** **Textbook** - *Linear Algebra and its Applications (6th edition) by David Lay, Steven Lay & Judi McDonald.* You will need the textbook to get an access code for MyMathLab.

**MyMathLab** is required for this course. An **electronic copy of the textbook** is included in your purchase of MyMathLab. Go to [www.mymathlab.com](http://www.mymathlab.com/) and use the Course ID **TBD (Wednesday)**. On-line homework and quizzes will be assigned through MyMathLab. Here are suggestions from Pearson for [getting started with MyMathLab](http://www.gang.umass.edu/~kusner/class/235mml.html). USE YOUR @UMASS EMAIL WHEN ENROLLING.

**Gradescope:** Use the entry code **PXB76K**

**Accommodation Statement:** The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

**Course Description:** Math 235 is an introductory course on linear algebra, covering systems of linear equations, matrices, linear maps, determinants, vector spaces, eigenvalues and eigenvectors, and orthogonality.

**Learning Objectives:** At the end of the class, students should have a good understanding of

1. Solving systems of linear equations Ax = b using matrices.
2. Matrix operations and properties.
3. Complete solution to Ax = b (column space containing b, rank of A, nullspace of A and special solutions to Ax = 0 from row reduced R)
4. Vector spaces (the concept of spanning sets)
5. Basis and dimensions (linear independent sets and coordinates)
6. Properties of determinants (leading to the cofactor formula and the sum over all n! permutations, applications to inv(A) and volume)
7. Eigenvalues and eigenvectors (diagonalizing A, computing powers A^k and matrix exponentials to solve difference and differential equations)
8. Linear transformations (maps between vector spaces)
9. The concept of orthogonality and Gram-Schmidt process.

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| --- | --- |
| Course Component | Weight |
| Exam 1 | 20% |
| Exam 2 | 20% |
| Exam 3 | 25% |
| All MyMathLab Assignments (including Quizzes) | 25% |
| Other Quizzes | 10% |

***To receive a passing grade, students must get at least 35% in each Exam.***

**Grading Scale:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |
| 90 | 87 | 83 | 79 | 75 | 71 | 67 | 63 | 59 | 55 | <55 |

There is **no rounding** of grades in this course. For example, an 89.99999 is an A- and not an A.

**Class Attendance:** Students are expected to attend all classes regularly. Attendance policies for synchronous-required courses are consistent with the [University Attendance Policies](https://www.umass.edu/registrar/students/policies-and-practices/class-absence-policy).

**MyMathLab Homework/Quiz:** Homework assignments and quizzes will be administered through MyMathLab. You will have multiple attempts for homework problems and only one attempt for quizzes. Students who miss deadlines for quizzes can attempt them for 50% credit.

**Other Quizzes:** There will be weekly written quizzes (except in the first and last weeks of classes, and except in weeks of mid-semester exams and holidays). Your two lowest scores will be dropped. This is to allow for all reasons for missing quizzes, including illness, emergencies, officially excused absence from campus, and absence for religious observance. There will be no make-up quizzes unless there are extenuating circumstances; documentation in such cases will be required.

**Exams:** There will be 2 midterms and a final exam. All exams are closed-book, however, you will be allowed a single paper note sheet. Paper size should not exceed A4 size and notes MUST be handwritten (not printed). To receive a passing grade, students must receive at least 35% in each exam.

- March 8, 7pm-9pm

- April 27, 7pm-9pm

- May 23 (final)

**Make-up Policy:** You may request a make-up exam if you have a documented, valid reason for missing an exam.

Exam/Class Conflict: If you have two exams scheduled during the same time period, or a class during our scheduled exam, you are eligible for a make-up exam. You must submit documentation from the Registrar's Office to your instructor at least two weeks before the scheduled exam.

Religious Observance: You should contact your instructor at the beginning of the semester if you must miss an exam due to religious observance.

Medical Reasons: If you will be absent from an exam due to medical reasons, you should notify your instructor at least one week in advance of the exam. If you have a medical emergency, you should notify your instructor as soon as possible. In either case, you may need to provide a documentation. You need not disclose any details of the reason for a medical excuse, but there must be enough information to allow the absence to be excused.

Other Circumstances: It is impossible to anticipate all of the possible things that can occur. In case of an exceptional event beyond those covered above, contact your instructor and explain the problem. (You should be prepared to provide a written statement if necessary.) Your instructor will evaluate the reasons that you have given and come to a decision.

Note that there is **no re-taking of exams** in this course. So, if you are sick and take the exam anyway, you cannot re-take the exam later for a better grade. Regardless of the situation, if you do not feel you can take the exam on the scheduled date notify your instructor immediately. Once you take the exam, there is nothing that can be done to change the grade.

**Make-up exams will not be given to accommodate travel plans**.

**Electronic Submission:** In case an online platform is utilized, it is your responsibility to make sure any electronic submission goes through successfully (uploaded, no blurry images, and the questions and answers match) and check with your instructor or TA that the submission is successful. You should make sure you submit your exams on Gradescope **before the exam time runs out**.

**Academic Honesty Statement:** Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent (<http://www.umass.edu/dean_students/codeofconduct/acadhonesty/>).